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08/790,165	01/29/97	NELSON	P 57747

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EXAMINER  
FLEURANTIN, J

ART UNIT  
2771

DATE MAILED 09/17/98  
3

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No. <b>08/790,165</b>	Applicant(s) <b>Paul M. Nelson</b>
Examiner <b>Jean Bolte Fleurantin</b>	Group Art Unit <b>2771</b>



Responsive to communication(s) filed on Jan 29, 1996

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

Claim(s) 1-9 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1, 2, 4-6, 8, and 9 is/are rejected.

Claim(s) 3 and 7 is/are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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**DETAILED ACTION**

1. Claims 1-9 are presented for examination.

*Claim Objections*

2. Claims 3 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Because, Knudsen and Lorie do not disclose 'an effective window'.

*Claim Rejections - 35 U.S.C. § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4, 5, 6, 8, and 9 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Knudsen (U.S. Pat. No. 5,594,899) in view of Lorie (U.S. Pat. No. 5,280,612).

As per claim 1, Knudsen substantially discloses a method creating a logical primary key comprising a prescribed number of columns in the versioned table, the logical primary key being

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created in a physical primary key of the versioned table (See, abstract, figure 27, col. 11, lines 62-66); defining at least one column of the physical primary key as a version effective reference value (See, abstract, figure 27, element 502, 503, 507);

deriving version differentiation criteria information from a version differentiation predicate included in a request submitted by a database user, the version differentiation predicate including a name of the versioned table defined to a database, a target effective status, and a target value for version processing (See, abstract, col. 4, lines 51-63, col. 28, lines 30-42);

retrieving rows of the versioned table that satisfy the version differentiation criteria derived from the version differentiation predicate by comparing the effective reference values of the versioned table with the version differentiation criteria (See, abstract, figure 30).

But, Knudsen does not teach a versioned table. However, Lorie does teach a method of multi-version database concurrency control system (See, abstract, col. 5, lines 23-24).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teaching of Knudsen with the teaching of Lorie, because this modification would allow the teaching of Knudsen to have a system for reducing storage requirement increases arising from database version maintenance. Also, recovery log volume is reduced because the 'before' image of updated fields not be logged, except when the same record is being updated more than once by a single transaction (See, col. 6, lines 45-51).

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As per claim 8, the elements of this claim are rejected in the analysis of claim 1 above, and this claim is rejected on that basis.

As per claim 2, Knudsen discloses a method of identifying of a version effective end value that does not participate in said physical primary key of said versioned table (See, col. 2, lines 27-29);

said retrieving of rows from the versioned table including comparing the effective end values of the versioned table with the version differentiation criteria (See, col. 2, lines 27-34).

As per claim 4, Knudsen discloses a method of identifying to said database management system a referential constraint specifying as a parent said versioned table (See, col. 2, lines 54-57); ensuring that rows exist in the versioned table such that the values of their logical primary keys correspond to the values of the columns of a dependent table identified in the referential constraint for an existing row of the dependent table (See, col. 6, lines 35-62).

As per claim 5, Knudsen discloses a method of identifying a row of the dependent table during the definition of said referential constraint for use as a referential constraint effective start value (See, abstract, figure 27, element 500);

comparing said referential constraint effective start value and said versioned effective start value and said versioned effective start value (see, abstract, col. Lines 9-13).

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As per claim 6, Knudsen discloses a method of identifying a row of the dependent table, during the definition of said referential constraint, for use as a referential constraint effective end value (see, col. 11, lines 3-17);

comparing said referential constraint effective start value to said versioned effective start value and said effective end value (See, col. 11, lines 9-13).

As per claim 9, Knudsen discloses a method of validating said target value range for one row of the versioned table to ensure that target value range for the row of the versioned table does not overlap with the target value ranges for other rows of the versioned table having logical primary keys matching the logical primary key for the one row of the versioned table (See, abstract, figure 27, element 502, 503).

### Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lorie et al	U.S. Patent no. 5,280,612.
Cochrane et al	U.S. Patent no. 5,546,576.
Bennett et al	U.S. Patent no. 5,581,793.
Knudsen et al	U.S. Patent no. 5,594,899.

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Any inquiry concerning this communication from the examiner should be directed to Jean Bolte Fleurantin at (703) 308-6718. The examiner can normally be reached on Monday to Friday from 7:30 A.M. to 6.00 P.M.

If any attempt to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Thomas G. Black, can be reached at (703) 305-9707. The fax phone number is (703) 305-9731.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone is (703) 305-9600.



Jean Bolte Fleurantin

Patent Examiner

August 20, 1998

JBF/

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*Wayne S.*  
WAYNE AMSBURY  
PRIMARY PATENT EXAMINER